

ABSTRACT OF THE DISCLOSURE

A silicon oxide film is formed on the back side of a semiconductor substrate by using a CVD apparatus of a single wafer processing type, with a silicon oxide film deposited on 5 the upper part of trenches on the semiconductor substrate placed downward, to form element isolation comprising the silicon oxide film, and then a MISFET is formed. As a result, even in a manufacturing process using mainly the single wafer processing, in which a film is not formed or hardly formed on 10 the back side of the semiconductor substrate, deterioration of a gate insulating film due to charging-up of the semiconductor substrate, which occurs at the time of plasma processing, for example, at the time of forming a gate electrode or ashing of a resist film, can be prevented, and contamination of the back 15 side of the semiconductor substrate can be prevented. Further, by performing lift-off cleaning which slightly etches the silicon oxide film, the cleaning efficiency can be improved.